

AMENDMENTS TO THE DRAWINGS

The attached sheet(s) of drawings includes changes to FIGS. 2-6, as required by the Examiner as summarized below:

FIG. 2: Reference no. "62" has been added; dielectric beads 16 and 20 have been identified with drawing symbols as in MPEP 608.02 (IX).

FIG. 3: Reference nos. 60 and 62 have been added.

FIG. 4: Reference no. 62 has been added.

FIG. 5: Reference no. 21' has been added.

FIG. 6: Reference no. 21" has been added.

No new matter is involved with any drawing amendment.

Attachment: Replacement sheets (2 sheets - FIGS. 1-6)

REMARKS

Claims 1-12 remain pending in this application. Claims 1, 9, 10, and 11 are independent. Claims 1, 2, and 8-12 have been amended, and no claims have been canceled or added by this amendment.

Objections to the Specification

Withdrawal of the objections to the Specification is requested. Responsive to the Examiner's numerous stated objections, the Specification has been amended by replacement paragraphs in a good-faith effort to comply, to the extent that Applicant understands each stated objection. No new matter is involved with any Specification amendment.

Objections to the Drawings

Withdrawal of the objections to the Drawings is requested. Responsive to the Examiner's numerous stated objections, the Drawings have been amended by Replacement Sheets in a good-faith effort to comply, to the extent that Applicant understands each stated objection. No new matter is involved with any Drawing amendment or Replacement Sheet.

Objections to the Claims

Withdrawal of the objection to claims 1, 2, and 9-11 is requested. These claims have been amended in a manner which is believed to overcome the stated basis for objection.

Unpatentability Rejection over Perrault et al. in view of Watanabe

Withdrawal of the rejection of claims 1, 4-7, and 11 under 35 U.S.C. §103(a) as being unpatentable over Perrault et al. (FR 2432775) in view of Watanabe (JP 62-289493) is requested.

At the outset, Applicant notes that, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art,

to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference must teach or suggest all the claim limitations.¹ Further, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure.²

An essential evidentiary component of an obviousness rejection is a teaching or suggestion or motivation to combine the prior art references.³ Combining prior art references without evidence of a suggestion, teaching or motivation simply takes the inventors' disclosure as a blueprint for piecing together the prior art to defeat patentability – the essence of hindsight.⁴

“There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art.”⁵ Further with regard to the level of skill of practitioners in the art, there is nothing in the statutes or the case law which makes “that which is within the capabilities of one skilled in the art” synonymous with obviousness.⁶ The level of skill in the art cannot be relied upon to provide the suggestion to combine references.⁷

Perrault et al. describes a connection between a coaxial line and a waveguide involving a simple connection to the wall of the waveguide. *There is no teaching or suggestion that the connection includes a transition plate of the kind required by the claims of the present application which tapers, is stepped, or otherwise varies in height along its length.* Furthermore, there is no teaching or suggestion that the face of the waveguide opposite that through which the coaxial line extends could be a radiating face, in the manner recited in the pending claims.

¹ See MPEP §2143.

² *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) and See MPEP §2143.

³ *C.R. Bard, Inc. v. M3 Systems, Inc.*, 48 USPQ2d 1225 (Fed. Cir. 1998)

⁴ *Interconnect Planning Corp. v. Feil*, 227 USPQ 543 (Fed. Cir. 1985)

⁵ See MPEP §2143.01, citing *In re Rouffet*, 149 F.3d, 1350, 1357, 47 USPQ2d 1453, 1457-8 (Fed. Cir. 1998).

⁶ *Ex parte Gerlach and Woerner*, 212 USPQ 471 (PTO Bd. App. 1980).

⁷ See MPEP §2143.01, citing *Al-Site Corp. v. VSI Int'l Inc.*, 50 USPQ2d 1161 (Fed. Cir. 1999).

Watanabe describes a connection between a waveguide and a microstrip 3 extending internally to the waveguide. There is no teaching or suggestion of how a connection could be made through a wall of a waveguide and, in particular, how a connection could be made through the narrow wall of a waveguide, as recited in the pending claims.

In particular, the applied art, taken alone or in combination, does not teach or suggest a microwave transition which includes, among other features, “*...a radiating face provided by a first of said two narrow walls*...a transition plate attached with said first conductor within said waveguide, wherein said transition plate is aligned centrally of said waveguide and extends lengthwise in contact with an internal surface of one of said two broad walls parallel to said radiating face, and *wherein the height of said transition plate is greater adjacent said first conductor than away from said first conductor*”, as recited in independent claim 1, as amended (emphasis added).

Further, the applied art, taken alone or in combination, does not teach or suggest a microwave antenna including a transition which includes, among other features, “*...a radiating face provided by a first of said two narrow walls*...a transition plate attached with said first conductor within said waveguide, wherein said transition plate is aligned centrally of said waveguide and extends lengthwise in contact with an internal surface of one of said two broad walls parallel to said radiating face, and *wherein the height of said transition plate is greater adjacent said first conductor than away from said first conductor*”, as recited in independent claim 11, as amended (emphasis added).

Accordingly, since the applied art does not teach or suggest all the recited limitations of independent claims 1 and 11 as amended, reconsideration and allowance of claims 1, 4-7, and 11 are respectfully requested.

Unpatentability Rejection over Perrault et al. in view of Agrawal et al.

Withdrawal of the rejection of claims 1, 2, 5-7, and 9 under 35 U.S.C. §103(a) as being unpatentable over Perrault et al. (FR 2432775) in view of Agrawal et al. (US 5,359,339) is requested. The legal requirements for a *prima facie* case of unpatentability have been set forth above.

Comments concerning Perrault et al. have been provided above.

Agrawal addresses a very particular problem of how a feed can be provided to a horn antenna. The problem is solved by providing the feed at one end opposite the radiating face and by using two stepped ridges extending longitudinally between the feed end and the radiating end of the antenna. This arrangement is very different from the waveguide as claimed where the radiating face is one of the long, narrow faces of the waveguide and where the transition plate extends parallel to this face.

Agrawal does not make up for the identified deficiencies of Perrault et al., as discussed above with respect to independent claim 1.

In particular, the applied art, taken alone or in combination, does not teach or suggest a microwave transition which includes, among other features, “*...a radiating face provided by a first of said two narrow walls...a transition plate attached with said first conductor within said waveguide, wherein said transition plate is aligned centrally of said waveguide and extends lengthwise in contact with an internal surface of one of said two broad walls parallel to said radiating face, and wherein the height of said transition plate is greater adjacent said first conductor than away from said first conductor*”, as recited in independent claim 1, as amended (emphasis added).

Further, the applied art, taken alone or in combination, does not teach or suggest a microwave transition which includes, among other features, “*...a radiating face provided by a first of said two narrow walls...a transition plate attached with said first conductor within said*

waveguide, wherein said transition plate has a flat edge and a stepped edge opposite said flat edge, wherein said plate is aligned centrally of said waveguide and extends lengthwise with said flat edge in contact with an internal surface of one of said two broad walls parallel to said radiating face, and wherein the height of said transition plate steps down away from said first conductor”, as recited in independent claim 9, as amended (emphasis added).

Accordingly, since the applied art does not teach or suggest all the recited limitations of independent claims 1 and 9 as amended, reconsideration and allowance of claims 1, 2, 5-7, and 9 are respectfully requested.

Unpatentability Rejection over Perrault et al. in view of Agrawal et al. and Ikeda

Withdrawal of the rejection of claim 8 under 35 U.S.C. §103(a) as being unpatentable over Perrault et al. (FR 2432775) in view of Agrawal et al. (US 5,359,339) and Ikeda (US 6,577,206) is requested.

The legal requirements for a *prima facie* case of unpatentability have been set forth above.

Ikeda is directed to a converter for satellite broadcast reception with an externally held probe, and is offered by the Examiner as disclosing a transition between a coaxial line and a rectangular waveguide where the coaxial line has a right angle bend external of the waveguide such as to be parallel to the adjacent waveguide wall. Ikeda does not make up for the identified deficiencies of Perrault et al. and Agrawal et al. with respect to the rejection of independent claim 1, above.

Accordingly, since the applied art does not teach or suggest all the recited limitations of claim 8 from which independent claim 1 depends, reconsideration and allowance of claim 8 are respectfully requested.

Unpatentability Rejection over Perrault et al. in view of Watanabe and Ikeda

Withdrawal of the rejection of claim 10 under 35 U.S.C. §103(a) as being unpatentable over Perrault et al. (FR 2432775) in view of Watanabe (JP 62-289493) and Ikeda (US 6,577,206) is requested.

The legal requirements for a *prima facie* case of unpatentability have been set forth above, and the deficiencies of the applied art have been discussed above.

As discussed above, Ikeda is directed to a converter for satellite broadcast reception with an externally held probe, and does not make up for the identified deficiencies of Perrault et al. and Agrawal et al. with respect to the rejection of independent claims 1 and 9, discussed above.

As for independent claim 10, the applied art, taken alone or in combination, does not teach or suggest a microwave transition which includes, among other features, “*...a radiating face provided by a first of said two narrow walls*...a transition plate attached with said first conductor within said waveguide, wherein said transition plate is aligned centrally of said waveguide and extends lengthwise in contact with an internal surface of one of said two broad walls parallel to said radiating face, and *wherein the height of said transition plate is greater adjacent said first conductor than away from said first conductor*”, as recited in independent claim 10, as amended (emphasis added).

Accordingly, since the applied art does not teach or suggest all the recited limitations of independent claim 10, reconsideration and allowance of claim 10 are respectfully requested.

Conclusion

In view of the above amendment, applicant believes that each of pending claims 1-12 in this application is in immediate condition for allowance. An early indication of the same would be appreciated.

In the event the Examiner believes that an interview would be helpful in resolving any

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outstanding issues in this case, the undersigned attorney is available at the telephone number indicated below.

Applicant believes no fee is due with this response. However, if a fee is due, please charge CBLH Deposit Account No. 22-0185, under Order No. 20272-00722-US from which the undersigned is authorized to draw.

Respectfully submitted,

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Attachments: Replacement Drawing Sheets (2 sheets - FIGS. 1-6)